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GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES,
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
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ML, MR, NE, SN, TD, TG)

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For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **DIAGNOSTICS AND THERAPEUTICS FOR DISEASES ASSOCIATED WITH NEUROPEPTIDE FF RECEPTOR 2
(NPFF2)**

(57) Abstract: The invention provides a human NPFF2 which is associated with the hematological diseases, cardiovascular dis-
eases, disorders of the peripheral and central nervous system, respiratory diseases like COPD and asthma, and genito-urological
disorders. The invention also provides assays for the identification of compounds useful in the treatment or prevention of hemato-
logical diseases, cardiovascular diseases, disorders of the peripheral and central nervous system, respiratory diseases like COPD and
asthma, and genito-urological disorders. The invention also features compounds which bind to and/or activate or inhibit the activity
of NPFF2 as well as pharmaceutical compositions comprising such compounds.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/02962

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12Q1/68 G01N33/74 A61K38/17		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61K C12Q G01N		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/057188 A (HYSEQ INC ;LIU CHENGHUA (US); TANG Y TOM (US); DRMANAC RADOJE T (U) 9 August 2001 (2001-08-09) paragraph [04.8] - paragraph [4.20] -----	1-26
X	LECRON J-C ET AL: "Modulation of human lymphocyte proliferation by FLFQPQRFamide, a FMRFamide-like peptide with anti-opiate properties" JOURNAL OF NEUROIMMUNOLOGY 1992 NETHERLANDS, vol. 38, no. 1-2, 1992, pages 1-8, XP008024132 ISSN: 0165-5728 the whole document ----- <div style="text-align: center;">-/--</div>	1-26
<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex. </div>		
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the International filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the International filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the International search <div style="text-align: center; font-size: 1.2em;">11 November 2003</div>		Date of mailing of the International search report <div style="text-align: center; font-size: 1.2em;">28. 01. 2004</div>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl Fax: (+31-70) 340-3018		Authorized officer <div style="text-align: center; font-size: 1.2em;">Schalich, J</div>

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/02962

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 262 246 B1 (GERALD CHRISTOPHE P G ET AL) 17 July 2001 (2001-07-17) column 24 - column 30 column 38 - column 44 table 4	1-26
X	----- KOTANI MASATO ET AL: "Functional characterization of a human receptor for neuropeptide FF and related peptides" BRITISH JOURNAL OF PHARMACOLOGY, vol. 133, no. 1, May 2001 (2001-05), pages 138-144, XP002260956 ISSN: 0007-1188 the whole document -----	1-17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/02962

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: -
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery : claims 2-3
Rule 39.1(iv) PCT - Diagnostic method practised on the
2. ☒ Claims Nos.: -
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additio

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-26 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: -

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery : claims 2-3

Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body : claim 12

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy: claim 26

Continuation of Box I.2

Claims Nos.: -

Present claims 1-26 relate to diseases defined by reference to a characteristic or property only, namely to involve the haematological system. Present claims 19, 20 and 24-26 furthermore relate to compounds defined by reference to a desired characteristic or property, namely to bind to or modulate the activity of the receptor for neuropeptide FF 2 (NPFF2 receptor).

The claims cover all diseases and compounds having said characteristics or properties, whereas the application provides support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT for only a very limited number of such diseases and compounds. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the diseases and compounds by reference to a result to be achieved.

The search was therefore restricted to the following subject-matter:

haematological diseases referred to in claims 1-26: leukemias, lymphomas, myelomas, anaemias, haemorrhagic, eosinophilic and spleen disorders, leukopenias and plasma cell dyscrasias as defined on p 57 to 58.

compositions referred to in claims 19, 20 and 24-26: antibodies, ribozymes and antisense polynucleotides

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
haematological diseases

2. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
cardiovascular diseases

3. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
disorders of the peripheral nervous system

4. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
disorders of the central nervous system

5. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
respiratory diseases

6. claims: 1-26 (in part)

Therapeutic and diagnostic use of NPFF2 receptor for
genito-urinary diseases

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/02962

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